<110> Doutriaux, Marie-Pascale
Betzner, Andreas
Freyssinet, Georges
Perez, Pascal

<120> METHOD FOR OBTAINING PLANT VARIETIES

<130> A33153-PCT-USA 072667.0128

<140> US 09/529,239
<141> 2000-10-27

<150> PCT/EP98/06977
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ecotype Columbia

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ecotype Columbia

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ecotype Columbia

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ecotype Columbia

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Met Gly Lys Gln Lys Gln Gln Thr Ile Ser Arg Phe Phe Ala Pro Lys
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ccc aaa tcc ccg act cac gaa ccg aat ccg gta gcc gaa tca tca aca  195
Pro Lys Ser Pro Thr His Glu Pro Asn Pro Val Ala Glu Ser Ser Thr
            20                  25                  30

ccg cca ccg aag ata tcc gcc act gta tcc ttc tct cct tcc aag cgt  243
Pro Pro Pro Lys Ile Ser Ala Thr Val Ser Phe Ser Pro Ser Lys Arg
        35                  40                  45

aag ctt ctc tcc gac cac ctc gcc gcc gcg tca ccc aaa aag cct aaa  291
Lys Leu Leu Ser Asp His Leu Ala Ala Ala Ser Pro Lys Lys Pro Lys
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ctt tct cct cac act caa aac cca gta ccc gat ccc aat tta cac caa  339
Leu Ser Pro His Thr Gln Asn Pro Val Pro Asp Pro Asn Leu His Gln
65                  70                  75                  80

aga ttt ctc cag aga ttt ctg gaa ccc tcg ccg gag gaa tat gtt ccc  387
Arg Phe Leu Gln Arg Phe Leu Glu Pro Ser Pro Glu Glu Tyr Val Pro
                85                  90                  95

gaa acg tca tca tcg agg aaa tac aca cca ttg gaa cag caa gtg gtg  435
Glu Thr Ser Ser Ser Arg Lys Tyr Thr Pro Leu Glu Gln Gln Val Val
            100                 105                 110

gag cta aag agc aag tac cca gat gtg gtt ttg atg gtg gaa gtt ggt  483
Glu Leu Lys Ser Lys Tyr Pro Asp Val Val Leu Met Val Glu Val Gly
        115                 120                 125

tac agg tac aga ttc ttc gga gaa gac gcg gag atc gca gca cgc gtg  531
Tyr Arg Tyr Arg Phe Phe Gly Glu Asp Ala Glu Ile Ala Ala Arg Val
    130                 135                 140

ttg ggt att tac gct cat atg gat cac aat ttc atg acg gcg agt gtg  579
Leu Gly Ile Tyr Ala His Met Asp His Asn Phe Met Thr Ala Ser Val
145                 150                 155                 160

cca aca ttt cga ttg aat ttc cat gtg aga aga ctg gtg aat gca gga  627
Pro Thr Phe Arg Leu Asn Phe His Val Arg Arg Leu Val Asn Ala Gly
                165                 170                 175

tac aag att ggt gta gtg aag cag act gaa act gca gcc att aag tcc  675
Tyr Lys Ile Gly Val Val Lys Gln Thr Glu Thr Ala Ala Ile Lys Ser
            180                 185                 190

cat ggt gca aac cgg acc ggc cct ttt ttc cgg gga ctg tcg gcg ttg  723
His Gly Ala Asn Arg Thr Gly Pro Phe Phe Arg Gly Leu Ser Ala Leu
        195                 200                 205

tat acc aaa gcc acg ctt gaa gcg gct gag gat ata agt ggt ggt tgt  771
Tyr Thr Lys Ala Thr Leu Glu Ala Ala Glu Asp Ile Ser Gly Gly Cys
    210                 215                 220

ggt ggt gaa gaa ggt ttt ggt tca cag agt aat ttc ttg gtt tgt gtt  819
Gly Gly Glu Glu Gly Phe Gly Ser Gln Ser Asn Phe Leu Val Cys Val
225                 230                 235                 240

gtg gat gag aga gtt aag tcg gag aca tta ggc tgt ggt att gaa atg  867
Val Asp Glu Arg Val Lys Ser Glu Thr Leu Gly Cys Gly Ile Glu Met
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agt ttt gat gtt aga gtc ggt gtt gtt ggc gtt gaa att tcg aca ggt  915
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gaa gtt gtt tat gaa gag ttc aat gat aat ttc atg aga agt gga tta  963
Glu Val Val Tyr Glu Glu Phe Asn Asp Asn Phe Met Arg Ser Gly Leu
        275                 280                 285

gag gct gtg att ttg agc ttg tca cca gct gag ctg ttg ctt ggc cag 1011
Glu Ala Val Ile Leu Ser Leu Ser Pro Ala Glu Leu Leu Leu Gly Gln
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cct ctt tca caa caa act gag aag ttt ttg gtg gca cat gct gga cct 1059
Pro Leu Ser Gln Gln Thr Glu Lys Phe Leu Val Ala Met Ala Gly Pro
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acc tca aac gtt cga gtg gaa cgt gcc tca ctg gat tgt ttc agc aat 1107
Thr Ser Asn Val Arg Val Glu Arg Ala Ser Leu Asp Cys Phe Ser Asn
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ggt aat gca gta gat gag gtt att tca tta tgt gaa aaa atc agc gca 1155
Gly Asn Ala Val Asp Glu Val Ile Ser Leu Cys Glu Lys Ile Ser Ala
            340                 345                 350

ggt aac tta gaa gat gat aaa gaa atg aag ctg gag gct gct gaa aaa 1203
Gly Asn Leu Glu Asp Asp Lys Glu Met Lys Leu Glu Ala Ala Glu Lys
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gga atg tct tgc ttg aca gtt cat aca att atg aac atg cca cat ctg 1251
Gly Met Ser Cys Leu Thr Val His Thr Ile Met Asn Met Pro His Leu
    370                 375                 380

act gtt caa gcc ctc gcc cta acg ttt tgc cat ctc aaa cag ttt gga 1299
Thr Val Gln Ala Leu Ala Leu Thr Phe Cys His Leu Lys Gln Phe Gly
385                 390                 395                 400

ttt gaa agg atc ctt tac caa ggg gcc tca ttt cgc tct ttg tca agt 1347
Phe Glu Arg Ile Leu Tyr Gln Gly Ala Ser Phe Arg Ser Leu Ser Ser
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aac aca gag atg act ctc tca gcc aat act ctg caa cag ttg gag gtt 1395
Asn Thr Glu Met Thr Leu Ser Ala Asn Thr Leu Gln Gln Leu Glu Val
            420                 425                 430

gtg aaa aat aat tca gat gga tcg gaa tct ggc tcc tta ttc cat aat 1443
Val Lys Asn Asn Ser Asp Gly Ser Glu Ser Gly Ser Leu Phe His Asn
        435                 440                 445

atg aat cac aca ctt aca gta tat gct tcc agg ctt ctt aga cac tgg 1491
Met Asn His Thr Leu Thr Val Tyr Gly Ser Arg Leu Leu Arg His Trp
    450                 455                 460

gtg act cat cct cta tgc gat aga aat ttg ata tct gct cgg ctt gat 1539
Val Thr His Pro Leu Cys Asp Arg Asn Leu Ile Ser Ala Arg Leu Asp
465                 470                 475                 480

gct gtt tct gag att tct gct tgc atg gga tct cat agt tct tcc cag 1587
Ala Val Ser Glu Ile Ser Ala Cys Met Gly Ser His Ser Ser Ser Gln
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cct gag ttt tat ctc gtg ctc tcc tca gtc ttg aca gct atg tct aga  1683
Pro Glu Phe Tyr Leu Val Leu Ser Ser Val Leu Thr Ala Met Ser Arg
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tca tct gat att caa cgt gga ata aca aga atc ttt cat cgg act gct  1731
Ser Ser Asp Ile Gln Arg Gly Ile Thr Arg Ile Phe His Arg Thr Ala
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aaa gcc aca gag ttc att gca gtt atg gaa gct att tta ctt gcg ggg  1779
Lys Ala Thr Glu Phe Ile Ala Val Met Glu Ala Ile Leu Leu Ala Gly
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aag caa att cag cgg ctt ggc ata aag caa gac tct gaa atg agg agt  1827
Lys Gln Ile Gln Arg Leu Gly Ile Lys Gln Asp Ser Glu Met Arg Ser
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atg caa tct gca act gtg cga tct act ctt ttg aga aaa ttg att tct  1875
Met Gln Ser Ala Thr Val Arg Ser Thr Leu Leu Arg Lys Leu Ile Ser
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gtt att tca tcc cct gtt gtg gtt gac aat gcc gga aaa ctt ctc tct  1923
Val Ile Ser Ser Pro Val Val Val Asp Asn Ala Gly Lys Leu Leu Ser
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gcc cta aat aag gaa gcg gct gtt cga ggt gac ttg ctc gac ata cta  1971
Ala Leu Asn Lys Glu Ala Ala Val Arg Gly Asp Leu Leu Asp Ile Leu
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atc act tcc agc gac caa ttt cct gag ctt gct gaa gct cgc caa gca  2019
Ile Thr Ser Ser Asp Gln Phe Pro Glu Leu Ala Glu Ala Arg Gln Ala
625                 630                 635                 640

gtt tta gtc atc agg gaa aag ctg gat tcc tcg ata gct tca ttt cgc  2067
Val Leu Val Ile Arg Glu Lys Leu Asp Ser Ser Ile Ala Ser Phe Arg
                645                 650                 655

aag aag ctc gct att cga aat ttg gaa ttt ctt caa gtg tcg ggg atc  2115
Lys Lys Leu Ala Ile Arg Asn Leu Glu Phe Leu Gln Val Ser Gly Ile
            660                 665                 670

aca cat ttg ata gag ctg ccc gtt gat tcc aag gtc cct atg aat tgg  2163
Thr His Leu Ile Glu Leu Pro Val Asp Ser Lys Val Pro His Asn Trp
        675                 680                 685

gtg aaa gta aat agc acc aag aag act att cga tat cat ccc cca gaa  2211
Val Lys Val Asn Ser Thr Lys Lys Thr Ile Arg Tyr His Pro Pro Glu
    690                 695                 700

ata gta gct ggc ttg gat gag cta gct cta gca act gaa cat ctt gcc  2259
Ile Val Ala Gly Leu Asp Glu Leu Ala Leu Ala Thr Glu His Leu Ala
705                 710                 715                 720

att gtg aac cga gct tcg tgg gat agt ttc ctc aag agt ttc agt aga  2307
Ile Val Asn Arg Ala Ser Trp Asp Ser Phe Leu Lys Ser Phe Ser Arg
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Tyr Tyr Thr Asp Phe Lys Ala Ala Val Gln Ala Leu Ala Ala Leu Asp
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tgt ttg cac tcc ctt tca act cta tct aga aac aag aac tat gtc cgt  2403
Cys Leu His Ser Leu Ser Thr Leu Ser Arg Asn Lys Asn Tyr Val Arg
        755                 760                 765

ccc gag ttt gtg gat gac tgt gaa cca gtt gag ata aac ata cag tct  2451
Pro Glu Phe Val Asp Asp Cys Glu Pro Val Glu Ile Asn Ile Gln Ser
    770                 775                 780

ggt cgt cat cct gta ctg gag act ata tta caa gat aac ttc gtc cca  2499
Gly Arg His Pro Val Leu Glu Thr Ile Leu Gln Asp Asn Phe Val Pro
785                 790                 795                 800

aat gac aca att ttg cat gca gaa ggg gaa tat tgc caa att atc acc  2547
Asn Asp Thr Ile Leu His Ala Glu Gly Glu Tyr Cys Gln Ile Ile Thr
                805                 810                 815

gga cct aac atg gga gga aag agc tgc tat atc cgt caa gtt gct tta  2595
Gly Pro Asn Met Gly Gly Lys Ser Cys Tyr Ile Arg Gln Val Ala Leu
            820                 825                 830

att tcc ata atg gct cag gtt ggt tcc ttt gta cca gcg tca ttc gcc  2643
Ile Ser Ile Met Ala Gln Val Gly Ser Phe Val Pro Ala Ser Phe Ala
        835                 840                 845

aag ctg cac gtg ctt gat ggt gtt ttc act cgg atg ggt gct tca gac  2691
Lys Leu His Val Leu Asp Gly Val Phe Thr Arg Met Gly Ala Ser Asp
    850                 855                 860

agt atc cag cat ggc aga agt acc ttt cta gaa gaa tta agt gaa gcg  2739
Ser Ile Gln His Gly Arg Ser Thr Phe Leu Glu Glu Leu Ser Glu Ala
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tca cac ata atc aga acc tgt tct tct cgt tcg ctt gtt ata tta gat  2787
Ser His Ile Ile Arg Thr Cys Ser Ser Arg Ser Leu Val Ile Leu Asp
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gag ctt gga aga ggc act agc aca cac gac ggt gta gcc att gcc tat  2835
Glu Leu Gly Arg Gly Thr Ser Thr His Asp Gly Val Ala Ile Ala Tyr
            900                 905                 910

gca aca tta cag cat ctc cta gca gaa aag aga tgt ttg gtt ctt ttt  2883
Ala Thr Leu Gln His Leu Leu Ala Glu Lys Arg Cys Leu Val Leu Phe
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gtc acg cat tac cct gaa ata gct gag atc agt aac gga ttc cca ggt  2931
Val Thr His Tyr Pro Glu Ile Ala Glu Ile Ser Asn Gly Phe Pro Gly
    930                 935                 940

tct gtt ggg aca tac cat gtc tcg tat ctg aca ttg cag aag gat aaa  2979
Ser Val Gly Thr Tyr His Val Ser Tyr Leu Thr Leu Gln Lys Asp Lys
945                 950                 955                 960

ggc agt tat gat cat gat gat gtg acc tac cta tat aag ctt gtg cgt  3027
Gly Ser Tyr Asp His Asp Asp Val Thr Tyr Leu Tyr Lys Leu Val Arg
                965                 970                 975

ggt ctt tgc agc agg agc ttt ggt ttt aag gtt gct cag ctt gcc cag  3075
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ata cct cca tca tgt ata cgt cga gcc att tca atg gct gca aaa ttg  3123
Ile Pro Pro Ser Cys Ile Arg Arg Ala Ile Ser Met Ala Ala Lys Leu
        995                1000                1005

gaa gct gag gta cgt gca aga gag aga aat aca cgc atg gga gaa cca  3171
Glu Ala Glu Val Arg Ala Arg Glu Arg Asn Thr Arg Met Gly Glu Pro
   1010                1015                1020

gaa gga cat gaa gaa ccg aga ggc gca gaa gaa tct att tcg gct cta  3219
Glu Gly His Glu Glu Pro Arg Gly Ala Glu Glu Ser Ile Ser Ala Leu
1025               1030                1035                1040

ggt gac ttg ttt gca gac ctg aaa ttt gct ctc tct gaa gag gac cct  3267
Gly Asp Leu Phe Ala Asp Leu Lys Phe Ala Leu Ser Glu Glu Asp Pro
               1045                1050                1055

tgg aaa gca ttc gag ttt tta aag cat gct tgg aag att gct ggc aaa  3315
Trp Lys Ala Phe Glu Phe Leu Lys His Ala Trp Lys Ile Ala Gly Lys
           1060                1065                1070

atc aga cta aaa cca act tgt tca ttt tgatttaatc ttaacattat   3362
Ile Arg Leu Lys Pro Thr Cys Ser Phe
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agcaactgca aggtcttgat catctgttag ttgcgtacta acttatgtgt attagtataa
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Pro Pro Pro Lys Ile Ser Ala Thr Val Ser Phe Ser Pro Ser Lys Arg
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Lys Leu Leu Ser Asp His Leu Ala Ala Ala Ser Pro Lys Lys Pro Lys
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Leu Ser Pro His Thr Gln Asn Pro Val Pro Asp Pro Asn Leu His Gln
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Arg Phe Leu Gln Arg Phe Leu Glu Pro Ser Pro Glu Glu Tyr Val Pro
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Glu Thr Ser Ser Ser Arg Lys Tyr Thr Pro Leu Glu Gln Gln Val Val
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Glu Leu Lys Ser Lys Tyr Pro Asp Val Val Leu Met Val Glu Val Gly
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Tyr Arg Tyr Arg Phe Phe Gly Glu Asp Ala Glu Ile Ala Ala Arg Val
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Leu Gly Ile Tyr Ala His Met Asp His Asn Phe Met Thr Ala Ser Val
145                 150                 155                 160

Pro Thr Phe Arg Leu Asn Phe His Val Arg Arg Leu Val Asn Ala Gly
                165                 170                 175

Tyr Lys Ile Gly Val Val Lys Gln Thr Glu Thr Ala Ala Ile Lys Ser
            180                 185                 190

His Gly Ala Asn Arg Thr Gly Pro Phe Phe Arg Gly Leu Ser Ala Leu
        195                 200                 205

Tyr Thr Lys Ala Thr Leu Glu Ala Ala Glu Asp Ile Ser Gly Gly Cys
    210                 215                 220

Gly Gly Glu Glu Gly Phe Gly Ser Gln Ser Asn Phe Leu Val Cys Val
225                 230                 235                 240

Val Asp Glu Arg Val Lys Ser Glu Thr Leu Gly Cys Gly Ile Glu Met
                245                 250                 255

Ser Phe Asp Val Arg Val Gly Val Val Gly Val Glu Ile Ser Thr Gly
            260                 265                 270

Glu Val Val Tyr Glu Glu Phe Asn Asp Asn Phe Met Arg Ser Gly Leu
        275                 280                 285

Glu Ala Val Ile Leu Ser Leu Ser Pro Ala Glu Leu Leu Leu Gly Gln
    290                 295                 300

Pro Leu Ser Gln Gln Thr Glu Lys Phe Leu Val Ala Met Ala Gly Pro
305                 310                 315                 320

Thr Ser Asn Val Arg Val Glu Arg Ala Ser Leu Asp Cys Phe Ser Asn
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Gly Asn Ala Val Asp Glu Val Ile Ser Leu Cys Glu Lys Ile Ser Ala
            340                 345                 350

Gly Asn Leu Glu Asp Asp Lys Glu Met Lys Leu Glu Ala Ala Glu Lys
        355                 360                 365

Gly Met Ser Cys Leu Thr Val His Thr Ile Met Asn Met Pro His Leu
    370                 375                 380

Thr Val Gln Ala Leu Ala Leu Thr Phe Cys His Leu Lys Gln Phe Gly
385                 390                 395                 400

Phe Glu Arg Ile Leu Tyr Gln Gly Ala Ser Phe Arg Ser Leu Ser Ser
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Asn Thr Glu Met Thr Leu Ser Ala Asn Thr Leu Gln Gln Leu Glu Val
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Val Lys Asn Asn Ser Asp Gly Ser Glu Ser Gly Ser Leu Phe His Asn
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Met Asn His Thr Leu Thr Val Tyr Gly Ser Arg Leu Leu Arg His Trp
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Val Thr His Pro Leu Cys Asp Arg Asn Leu Ile Ser Ala Arg Leu Asp
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Ala Val Ser Glu Ile Ser Ala Cys Met Gly Ser His Ser Ser Ser Gln
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Leu Ser Ser Glu Leu Val Glu Glu Gly Ser Glu Arg Ala Ile Val Ser
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Pro Glu Phe Tyr Leu Val Leu Ser Ser Val Leu Thr Ala Met Ser Arg
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Ser Ser Asp Ile Gln Arg Gly Ile Thr Arg Ile Phe His Arg Thr Ala
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Lys Ala Thr Glu Phe Ile Ala Val Met Glu Ala Ile Leu Leu Ala Gly
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Lys Gln Ile Gln Arg Leu Gly Ile Lys Gln Asp Ser Glu Met Arg Ser
565 570 575

Met Gln Ser Ala Thr Val Arg Ser Thr Leu Leu Arg Lys Leu Ile Ser
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Val Ile Ser Ser Pro Val Val Val Asp Asn Ala Gly Lys Leu Leu Ser
595 600 605

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Ile Thr Ser Ser Asp Gln Phe Pro Glu Leu Ala Glu Ala Arg Gln Ala
625 630 635 640

Val Leu Val Ile Arg Glu Lys Leu Asp Ser Ser Ile Ala Ser Phe Arg
645 650 655

Lys Lys Leu Ala Ile Arg Asn Leu Glu Phe Leu Gln Val Ser Gly Ile
660 665 670

Thr His Leu Ile Glu Leu Pro Val Asp Ser Lys Val Pro His Asn Trp
675 680 685

Val Lys Val Asn Ser Thr Lys Lys Thr Ile Arg Tyr His Pro Pro Glu
690 695 700

Ile Val Ala Gly Leu Asp Glu Leu Ala Leu Ala Thr Glu His Leu Ala
705 710 715 720

Ile Val Asn Arg Ala Ser Trp Asp Ser Phe Leu Lys Ser Phe Ser Arg
725 730 735

Tyr Tyr Thr Asp Phe Lys Ala Ala Val Gln Ala Leu Ala Ala Leu Asp
740 745 750

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Cys Leu His Ser Leu Ser Thr Leu Ser Arg Asn Lys Asn Tyr Val Arg
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Pro Glu Phe Val Asp Asp Cys Glu Pro Val Glu Ile Asn Ile Gln Ser
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Gly Arg His Pro Val Leu Glu Thr Ile Leu Gln Asp Asn Phe Val Pro
785                 790                 795                 800

Asn Asp Thr Ile Leu His Ala Glu Gly Glu Tyr Cys Gln Ile Ile Thr
                805                 810                 815

Gly Pro Asn Met Gly Gly Lys Ser Cys Tyr Ile Arg Gln Val Ala Leu
            820                 825                 830

Ile Ser Ile Met Ala Gln Val Gly Ser Phe Val Pro Ala Ser Phe Ala
        835                 840                 845

Lys Leu His Val Leu Asp Gly Val Phe Thr Arg Met Gly Ala Ser Asp
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Ser Ile Gln His Gly Arg Ser Thr Phe Leu Glu Glu Leu Ser Glu Ala
865                 870                 875                 880

Ser His Ile Ile Arg Thr Cys Ser Ser Arg Ser Leu Val Ile Leu Asp
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Glu Leu Gly Arg Gly Thr Ser Thr His Asp Gly Val Ala Ile Ala Tyr
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Ala Thr Leu Gln His Leu Leu Ala Glu Lys Arg Cys Leu Val Leu Phe
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Val Thr His Tyr Pro Glu Ile Ala Glu Ile Ser Asn Gly Phe Pro Gly
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Ser Val Gly Thr Tyr His Val Ser Tyr Leu Thr Leu Gln Lys Asp Lys
945                 950                 955                 960

Gly Ser Tyr Asp His Asp Asp Val Thr Tyr Leu Tyr Lys Leu Val Arg
                965                 970                 975

Gly Leu Cys Ser Arg Ser Phe Gly Phe Lys Val Ala Gln Leu Ala Gln
            980                 985                 990

Ile Pro Pro Ser Cys Ile Arg Arg Ala Ile Ser Met Ala Ala Lys Leu
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Glu Ala Glu Val Arg Ala Arg Glu Arg Asn Thr Arg Met Gly Glu Pro
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Glu Gly His Glu Glu Pro Arg Gly Ala Glu Glu Ser Ile Ser Ala Leu
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Gly Asp Leu Phe Ala Asp Leu Lys Phe Ala Leu Ser Glu Glu Asp Pro
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Trp Lys Ala Phe Glu Phe Leu Lys His Ala Trp Lys Ile Ala Gly Lys
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Ile Arg Leu Lys Pro Thr Cys Ser Phe
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1075 1080

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ecotype Columbia

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ecotype Columbia

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ecotype Columbia

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ecotype Columbia

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ecotype Columbia

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ecotype Columbia

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ecotype Columbia

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120

tctctctcac aattccaaaa a atg cag cgc cag aga tcg att ttg tct ttc 171
Met Gln Arg Gln Arg Ser Ile Leu Ser Phe
1 5 10

ttc caa aaa ccc acc gcg gcg act acg aag ggt ttg gtt tcc ggc gat 219
Phe Gln Lys Pro Thr Ala Ala Thr Thr Lys Gly Leu Val Ser Gly Asp
15 20 25

gct gct agc ggc ggg ggc ggc agc gga gga cca cga ttt aat gtg aag 267
Ala Ala Ser Gly Gly Gly Gly Ser Gly Gly Pro Arg Phe Asn Val Arg
30 35 40

gaa ggg gat gct aaa ggc gac gct tct gta cgt ttt gct gtt tcg aaa 315
Glu Gly Asp Ala Lys Gly Asp Ala Ser Val Arg Phe Ala Val Ser Lys
45 50 55

tct gtc gat gag gtt aga gga acg gat act cca ccg gag aag gtt ccg 363
Ser Val Asp Glu Val Arg Gly Thr Asp Thr Pro Pro Glu Lys Val Pro
60 65 70

cgt cgt gtc ctg ccg tct gga ttt aag ccg gct gaa tcc gcc gst gat 411
Arg Arg Val Leu Pro Ser Gly Phe Lys Pro Ala Glu Ser Ala Gly Asp
75 80 85 90

gct tcg tcc ctg ttc tcc aat att atg cat aag ttt gta aaa gtc gat 459
Ala Ser Ser Leu Phe Ser Asn Ile Met His Lys Phe Val Lys Val Asp
95 100 105

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gat cga gat tgt tct gga gag agg agc cga gaa gat gtt gtt ccg ctg  507
Asp Arg Asp Cys Ser Gly Glu Arg Ser Arg Glu Asp Val Val Pro Leu
            110                 115                 120

aat gat tca tct cta tgt atg aag gct aat gat gtt att cct caa ttt  555
Asn Asp Ser Ser Leu Cys Met Lys Ala Asn Asp Val Ile Pro Gln Phe
        125                 130                 135

cgt tcc aat aat ggt aaa act caa gaa aga aac cat gct ttt agt ttc  603
Arg Ser Asn Asn Gly Lys Thr Gln Glu Arg Asn His Ala Phe Ser Phe
    140                 145                 150

agt ggg aga gct gaa ctt aga tca gta gaa gat ata gga gta gat ggc  651
Ser Gly Arg Ala Glu Leu Arg Ser Val Glu Asp Ile Gly Val Asp Gly
155                 160                 165                 170

gat gtt cct ggt cca gaa aca cca ggg atg cgt cca cgt gct tct cgc  699
Asp Val Pro Gly Pro Glu Thr Pro Gly Met Arg Pro Arg Ala Ser Arg
                175                 180                 185

ttg aag cga gtt ctg gag gat gaa atg act ttt aag gag gat aag gtt  747
Leu Lys Arg Val Leu Glu Asp Glu Met Thr Phe Lys Glu Asp Lys Val
            190                 195                 200

cct gta ttg gac tct aac aaa agg ctg aaa atg ctc cag gat ccg gtt  795
Pro Val Leu Asp Ser Asn Lys Arg Leu Lys Met Leu Gln Asp Pro Val
        205                 210                 215

tgt gga gag aag aaa gaa gta aac gaa gga acc aaa ttt gaa tgg ctt  843
Cys Gly Glu Lys Lys Glu Val Asn Glu Gly Thr Lys Phe Glu Trp Leu
    220                 225                 230

gag tct tct cga atc agg gat gcc aat aga aga cgt cct gat gat ccc  891
Glu Ser Ser Arg Ile Arg Asp Ala Asn Arg Arg Arg Pro Asp Asp Pro
235                 240                 245                 250

ctt tac gat aga aag acc tta cac ata cca cct gat gtt ttc aag aaa  939
Leu Tyr Asp Arg Lys Thr Leu His Ile Pro Pro Asp Val Phe Lys Lys
                255                 260                 265

atg tct gca tca caa aag caa tat tgg agt gtt aag agt gaa tat atg  987
Met Ser Ala Ser Gln Lys Gln Tyr Trp Ser Val Lys Ser Glu Tyr Met
            270                 275                 280

gac att gtg ctt ttc ttt aaa gtg ggg aaa ttt tat gag ctg tat gag 1035
Asp Ile Val Leu Phe Phe Lys Val Gly Lys Phe Tyr Glu Leu Tyr Glu
        285                 290                 295

cta gat gcg gaa tta ggt cac aag gag ctt gac tgg aag atg acc atg 1083
Leu Asp Ala Glu Leu Gly His Lys Glu Leu Asp Trp Lys Met Thr Met
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agt ggt gtg gga aaa tgc aga cag gtt ggt atc tct gaa agt ggg ata 1131
Ser Gly Val Gly Lys Cys Arg Gln Val Gly Ile Ser Glu Ser Gly Ile
315                 320                 325                 330

gat gag gca gtg caa aag cta tta gct cgt gga tat aaa gtt gga cga 1179
Asp Glu Ala Val Gln Lys Leu Leu Ala Arg Gly Tyr Lys Val Gly Arg
                335                 340                 345
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act ata att cca agg aag cta gtt cag gta tta act cca tca aca gca  1275
Thr Ile Ile Pro Arg Lys Leu Val Gln Val Leu Thr Pro Ser Thr Ala
        365                 370                 375

agc gag gga aac atc ggg cct gat gcc gtc cat ctt ctt gct ata aaa  1323
Ser Glu Gly Asn Ile Gly Pro Asp Ala Val His Leu Leu Ala Ile Lys
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gag atc aaa atg gag cta caa aag tgt tca act gtg tat gga ttt gct  1371
Glu Ile Lys Met Glu Leu Gln Lys Cys Ser Thr Val Tyr Gly Phe Ala
395                 400                 405                 410

ttt gtt gac tgt gct gcc ttg agg ttt tgg gtt ggg tcc atc agc gat  1419
Phe Val Asp Cys Ala Ala Leu Arg Phe Trp Val Gly Ser Ile Ser Asp
                415                 420                 425

gat gca tca tgt gct gct ctt gga gcg tta ttg atg cag gtt tct cca  1467
Asp Ala Ser Cys Ala Ala Leu Gly Ala Leu Leu Met Gln Val Ser Pro
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Lys Glu Val Leu Tyr Asp Ser Lys Gly Leu Ser Arg Glu Ala Gln Lys
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gct cta agg aaa tat acg ttg aca ggg tct acg gcg gta cag ttg gct  1563
Ala Leu Arg Lys Tyr Thr Leu Thr Gly Ser Thr Ala Val Gln Leu Ala
    460                 465                 470

cca gta cca caa gta atg ggg gat aca gat gct gct gga gtt aga aat  1611
Pro Val Pro Gln Val Met Gly Asp Thr Asp Ala Ala Gly Val Arg Asn
475                 480                 485                 490

ata ata gaa tct aac gga tac ttt aaa ggt tct tct gaa tca tgg aac  1659
Ile Ile Glu Ser Asn Gly Tyr Phe Lys Gly Ser Ser Glu Ser Trp Asn
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tgt gct gtt gat ggt cta aat gaa tgt gat gtt gcc ctt agt gct ctt  1707
Cys Ala Val Asp Gly Leu Asn Glu Cys Asp Val Ala Leu Ser Ala Leu
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gga gag cta att aat cat ctg tct agg cta aag cta gaa gat gta ctt  1755
Gly Glu Leu Ile Asn His Leu Ser Arg Leu Lys Leu Glu Asp Val Leu
        525                 530                 535

aag cat ggg gat att ttt cca tac caa gtt tac agg ggt tgt ctc aga  1803
Lys His Gly Asp Ile Phe Pro Tyr Gln Val Tyr Arg Gly Cys Leu Arg
    540                 545                 550

att gat ggc cag acg atg gta aat ctt gag ata ttt aac aat agc tgt  1851
Ile Asp Gly Gln Thr Met Val Asn Leu Glu Ile Phe Asn Asn Ser Cys
555                 560                 565                 570

gat ggt ggt cct tca ggg acc ttg tac aaa tat ctt gat aac tgt gtt  1899
Asp Gly Gly Pro Ser Gly Thr Leu Tyr Lys Tyr Leu Asp Asn Cys Val
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agt cca act ggt aag cga ctc tta agg aat tgg atc tgc cat cca ctc  1947
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aaa gat gta gaa agc atc aat aaa cgg ctt gat gta gtt gaa gaa ttc  1995
Lys Asp Val Glu Ser Ile Asn Lys Arg Leu Asp Val Val Glu Glu Phe
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acg gca aac tca gaa agt atg caa atc act ggc cag tat ctc cac aaa  2043
Thr Ala Asn Ser Glu Ser Met Gln Ile Thr Gly Gln Tyr Leu His Lys
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ctt cca gac tta gaa aga ctg ctc gga cgc atc aag tct agc gtt cga  2091
Leu Pro Asp Leu Glu Arg Leu Leu Gly Arg Ile Lys Ser Ser Val Arg
635                 640                 645                 650

tca tca gcc tct gtg ttg cct gct ctt ctg ggg aaa aaa gtg ctg aaa  2139
Ser Ser Ala Ser Val Leu Pro Ala Leu Leu Gly Lys Lys Val Leu Lys
                655                 660                 665

caa cga gtt aaa gca ttt ggg caa att gtg aaa ggg ttc aga agt gga  2187
Gln Arg Val Lys Ala Phe Gly Gln Ile Val Lys Gly Phe Arg Ser Gly
            670                 675                 680

att gat ctg ttg ttg gct cta cag aag gaa tca aat atg atg agt ttg  2235
Ile Asp Leu Leu Leu Ala Leu Gln Lys Glu Ser Asn Met Met Ser Leu
        685                 690                 695

ctt tat aaa ctc tgt aaa ctt cct ata tta gta gga aaa agc ggg cta  2283
Leu Tyr Lys Leu Cys Lys Leu Pro Ile Leu Val Gly Lys Ser Gly Leu
    700                 705                 710

gag tta ttt ctt tct caa ttc gaa gca gcc ata gat agc gac ttt cca  2331
Glu Leu Phe Leu Ser Gln Phe Glu Ala Ala Ile Asp Ser Asp Phe Pro
715                 720                 725                 730

aat tat cag aac caa gat gtg aca gat gaa aac gct gaa act ctc aca  2379
Asn Tyr Gln Asn Gln Asp Val Thr Asp Glu Asn Ala Glu Thr Leu Thr
                735                 740                 745

ata ctt atc gaa ctt ttt atc gaa aga gca act caa tgg tct gag gtc  2427
Ile Leu Ile Glu Leu Phe Ile Glu Arg Ala Thr Gln Trp Ser Glu Val
            750                 755                 760

att cac acc ata agc tgc cta gat gtc ctg aga tct ttt gca atc gca  2475
Ile His Thr Ile Ser Cys Leu Asp Val Leu Arg Ser Phe Ala Ile Ala
        765                 770                 775

gca agt ctc tct gct gga agc atg gcc agg cct gtt att ttt ccc gaa  2523
Ala Ser Leu Ser Ala Gly Ser Met Ala Arg Pro Val Ile Phe Pro Glu
    780                 785                 790

tca gaa gct aca gat cag aat cag aaa aca aaa ggg cca ata ctt aaa  2571
Ser Glu Ala Thr Asp Gln Asn Gln Lys Thr Lys Gly Pro Ile Leu Lys
795                 800                 805                 810

atc caa gga cta tgg cat cca ttt gca gtt gca gcc gat ggt caa ttg  2619
Ile Gln Gly Leu Trp His Pro Phe Ala Val Ala Ala Asp Gly Gln Leu
                815                 820                 825

cct gtt ccg aat gat ata ctc ctt ggc gag gct aga aga agc agt ggc  2667
Pro Val Pro Asn Asp Ile Leu Leu Gly Glu Ala Arg Arg Ser Ser Gly
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            830                 835                 840

agc att cat cct cgg tca ttg tta ctg acg gga cca aac atg ggc gga  2715
Ser Ile His Pro Arg Ser Leu Leu Leu Thr Gly Pro Asn Met Gly Gly
        845                 850                 855

aaa tca act ctt ctt cgt gca aca tgt ctg gcc gtt atc ttt gcc caa  2763
Lys Ser Thr Leu Leu Arg Ala Thr Cys Leu Ala Val Ile Phe Ala Gln
    860                 865                 870

ctt ggc tgc tac gtg ccg tgt gag tct tgc gaa atc tcc ctc gtg gat  2811
Leu Gly Cys Tyr Val Pro Cys Glu Ser Cys Glu Ile Ser Leu Val Asp
875                 880                 885                 890

act atc ttc aca agg ctt ggc gca tct gat aga atc atg aca gga gag  2859
Thr Ile Phe Thr Arg Leu Gly Ala Ser Asp Arg Ile Met Thr Gly Glu
                895                 900                 905

agt acc ttt ttg gta gaa tgc act gag aca gcg tca gtt ctt cag aat  2907
Ser Thr Phe Leu Val Glu Cys Thr Glu Thr Ala Ser Val Leu Gln Asn
            910                 915                 920

gca act cag gat tca cta gta atc ctt gac gaa ctg ggc aga gga act  2955
Ala Thr Gln Asp Ser Leu Val Ile Leu Asp Glu Leu Gly Arg Gly Thr
        925                 930                 935

agt act ttc gat gga tac gcc att gca tac tcg gtt ttt cgt cac ctg  3003
Ser Thr Phe Asp Gly Tyr Ala Ile Ala Tyr Ser Val Phe Arg His Leu
    940                 945                 950

gta gag aaa gtt caa tgt cgg atg ctc ttt gca aca cat tac cac cct  3051
Val Glu Lys Val Gln Cys Arg Met Leu Phe Ala Thr His Tyr His Pro
955                 960                 965                 970

ctc acc aag gaa ttc gcg tct cac cca cgt gtc acc tcg aaa cac atg  3099
Leu Thr Lys Glu Phe Ala Ser His Pro Arg Val Thr Ser Lys His Met
                975                 980                 985

gct tgc gca ttc aaa tca aga tct gat tat caa cca cgt ggt tgt gat  3147
Ala Cys Ala Phe Lys Ser Arg Ser Asp Tyr Gln Pro Arg Gly Cys Asp
            990                 995                1000

caa gac cta gtg ttc ttg tac cgt tta acc gag gga gct tgt cct gag  3195
Gln Asp Leu Val Phe Leu Tyr Arg Leu Thr Glu Gly Ala Cys Pro Glu
       1005                1010                1015

agc tac gga ctt caa gtg gca ctc atg gct gga ata cca aac caa gtg  3243
Ser Tyr Gly Leu Gln Val Ala Leu Met Ala Gly Ile Pro Asn Gln Val
   1020                1025                1030

gtt gaa aca gca tca ggt gct gct caa gcc atg aag aga tca att ggg  3291
Val Glu Thr Ala Ser Gly Ala Ala Gln Ala Met Lys Arg Ser Ile Gly
1035                1040                1045                1050

gga aac ttc aag tca agt gag cta aga tct gag ttc tca agt ctg cat  3339
Glu Asn Phe Lys Ser Ser Glu Leu Arg Ser Glu Phe Ser Ser Leu His
                1055                1060                1065

gaa gac tgg ctc aag tca ttg gtg ggt att tct cga gtc gcc cac aac  3387
Glu Asp Trp Leu Lys Ser Leu Val Gly Ile Ser Arg Val Ala His Asn
            1070                1075                1080
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aat gcc ccc att ggc gaa gat gac tac gac act ttg ttt tgc tta tgg  3435
Asn Ala Pro Ile Gly Glu Asp Asp Tyr Asp Thr Leu Phe Cys Leu Trp
       1085                1090                1095

cat gag atc aaa tcc tct tac tgt gtt ccc aaa taaatggcta 3478
His Glu Ile Lys Ser Ser Tyr Cys Val Pro Lys
   1100                1105

tgacataaca ctatctgaag ctcgttaagt cttttgcctc tctgatgttt attcctctta
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aaaaatgctt atatatcaaa aaattgtttc ctcgattaaa aaaaaaaaaa aaaaaaaaaa
3598
aaaaaaaa                                                    3606


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Met Gln Arg Gln Arg Ser Ile Leu Ser Phe Phe Gln Lys Pro Thr Ala
  1               5                  10                  15

Ala Thr Thr Lys Gly Leu Val Ser Gly Asp Ala Ala Ser Gly Gly Gly
             20                  25                  30

Gly Ser Gly Gly Pro Arg Phe Asn Val Arg Glu Gly Asp Ala Lys Gly
         35                  40                  45

Asp Ala Ser Val Arg Phe Ala Val Ser Lys Ser Val Asp Glu Val Arg
     50                  55                  60

Gly Thr Asp Thr Pro Pro Glu Lys Val Pro Arg Arg Val Leu Pro Ser
 65                  70                  75                  80

Gly Phe Lys Pro Ala Glu Ser Ala Gly Asp Ala Ser Ser Leu Phe Ser
                 85                  90                  95

Asn Ile Met His Lys Phe Val Lys Val Asp Asp Arg Asp Cys Ser Gly
            100                 105                 110

Glu Arg Ser Arg Glu Asp Val Val Pro Leu Asn Asp Ser Ser Leu Cys
        115                 120                 125

Met Lys Ala Asn Asp Val Ile Pro Gln Phe Arg Ser Asn Asn Gly Lys
    130                 135                 140

Thr Gln Glu Arg Asn His Ala Phe Ser Phe Ser Gly Arg Ala Glu Leu
145                 150                 155                 160

Arg Ser Val Glu Asp Ile Gly Val Asp Gly Asp Val Pro Gly Pro Glu
                165                 170                 175

Thr Pro Gly Met Arg Pro Arg Ala Ser Arg Leu Lys Arg Val Leu Glu
            180                 185                 190

Asp Glu Met Thr Phe Lys Glu Asp Lys Val Pro Val Leu Asp Ser Asn
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        195                 200                 205

Lys Arg Leu Lys Met Leu Gln Asp Pro Val Cys Gly Glu Lys Lys Glu
    210                 215                 220

Val Asn Glu Gly Thr Lys Phe Glu Trp Leu Glu Ser Ser Arg Ile Arg
225                 230                 235                 240

Asp Ala Asn Arg Arg Arg Pro Asp Asp Pro Leu Tyr Asp Arg Lys Thr
                245                 250                 255

Leu His Ile Pro Pro Asp Val Phe Lys Lys Met Ser Ala Ser Gln Lys
            260                 265                 270

Gln Tyr Trp Ser Val Lys Ser Glu Tyr Met Asp Ile Val Leu Phe Phe
        275                 280                 285

Lys Val Gly Lys Phe Tyr Glu Leu Tyr Glu Leu Asp Ala Glu Leu Gly
    290                 295                 300

His Lys Glu Leu Asp Trp Lys Met Thr Met Ser Gly Val Gly Lys Cys
305                 310                 315                 320

Arg Gln Val Gly Ile Ser Glu Ser Gly Ile Asp Glu Ala Val Gln Lys
                325                 330                 335

Leu Leu Ala Arg Gly Tyr Lys Val Gly Arg Ile Glu Gln Leu Glu Thr
            340                 345                 350

Ser Asp Gln Ala Lys Ala Arg Gly Ala Asn Thr Ile Ile Pro Arg Lys
        355                 360                 365

Leu Val Gln Val Leu Thr Pro Ser Thr Ala Ser Glu Gly Asn Ile Gly
    370                 375                 380

Pro Asp Ala Val His Leu Leu Ala Ile Lys Glu Ile Lys Met Glu Leu
385                 390                 395                 400

Gln Lys Cys Ser Thr Val Tyr Gly Phe Ala Phe Val Asp Cys Ala Ala
                405                 410                 415

Leu Arg Phe Trp Val Gly Ser Ile Ser Asp Asp Ala Ser Cys Ala Ala
            420                 425                 430

Leu Gly Ala Leu Leu Met Gln Val Ser Pro Lys Glu Val Leu Tyr Asp
        435                 440                 445

Ser Lys Gly Leu Ser Arg Glu Ala Gln Lys Ala Leu Arg Lys Tyr Thr
    450                 455                 460

Leu Thr Gly Ser Thr Ala Val Gln Leu Ala Pro Val Pro Gln Val Met
465                 470                 475                 480

Gly Asp Thr Asp Ala Ala Gly Val Arg Asn Ile Ile Glu Ser Asn Gly
                485                 490                 495

Tyr Phe Lys Gly Ser Ser Glu Ser Trp Asn Cys Ala Val Asp Gly Leu
            500                 505                 510

Asn Glu Cys Asp Val Ala Leu Ser Ala Leu Gly Glu Leu Ile Asn His
        515                 520                 525
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Leu Ser Arg Leu Lys Leu Glu Asp Val Leu Lys His Gly Asp Ile Phe
    530                 535                 540

Pro Tyr Gln Val Tyr Arg Gly Cys Leu Arg Ile Asp Gly Gln Thr Met
545                 550                 555                 560

Val Asn Leu Glu Ile Phe Asn Asn Ser Cys Asp Gly Gly Pro Ser Gly
                565                 570                 575

Thr Leu Tyr Lys Tyr Leu Asp Asn Cys Val Ser Pro Thr Gly Lys Arg
            580                 585                 590

Leu Leu Arg Asn Trp Ile Cys His Pro Leu Lys Asp Val Glu Ser Ile
        595                 600                 605

Asn Lys Arg Leu Asp Val Val Glu Glu Phe Thr Ala Asn Ser Glu Ser
    610                 615                 620

Met Gln Ile Thr Gly Gln Tyr Leu His Lys Leu Pro Asp Leu Glu Arg
625                 630                 635                 640

Leu Leu Gly Arg Ile Lys Ser Ser Val Arg Ser Ser Ala Ser Val Leu
                645                 650                 655

Pro Ala Leu Leu Gly Lys Lys Val Leu Lys Gln Arg Val Lys Ala Phe
            660                 665                 670

Gly Gln Ile Val Lys Gly Phe Arg Ser Gly Ile Asp Leu Leu Leu Ala
        675                 680                 685

Leu Gln Lys Glu Ser Asn Met Met Ser Leu Leu Tyr Lys Leu Cys Lys
    690                 695                 700

Leu Pro Ile Leu Val Gly Lys Ser Gly Leu Glu Leu Phe Leu Ser Gln
705                 710                 715                 720

Phe Glu Ala Ala Ile Asp Ser Asp Phe Pro Asn Tyr Gln Asn Gln Asp
                725                 730                 735

Val Thr Asp Glu Asn Ala Glu Thr Leu Thr Ile Leu Ile Glu Leu Phe
            740                 745                 750

Ile Glu Arg Ala Thr Gln Trp Ser Glu Val Ile His Thr Ile Ser Cys
        755                 760                 765

Leu Asp Val Leu Arg Ser Phe Ala Ile Ala Ala Ser Leu Ser Ala Gly
    770                 775                 780

Ser Met Ala Arg Pro Val Ile Phe Pro Glu Ser Glu Ala Thr Asp Gln
785                 790                 795                 800

Asn Gln Lys Thr Lys Gly Pro Ile Leu Lys Ile Gln Gly Leu Trp His
                805                 810                 815

Pro Phe Ala Val Ala Ala Asp Gly Gln Leu Pro Val Pro Asn Asp Ile
            820                 825                 830

Leu Leu Gly Glu Ala Arg Arg Ser Ser Gly Ser Ile His Pro Arg Ser
        835                 840                 845
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Leu Leu Leu Thr Gly Pro Asn Met Gly Gly Lys Ser Thr Leu Leu Arg
    850                 855                 860

Ala Thr Cys Leu Ala Val Ile Phe Ala Gln Leu Gly Cys Tyr Val Pro
865                 870                 875                 880

Cys Glu Ser Cys Glu Ile Ser Leu Val Asp Thr Ile Phe Thr Arg Leu
                885                 890                 895

Gly Ala Ser Asp Arg Ile Met Thr Gly Glu Ser Thr Phe Leu Val Glu
            900                 905                 910

Cys Thr Glu Thr Ala Ser Val Leu Gln Asn Ala Thr Gln Asp Ser Leu
        915                 920                 925

Val Ile Leu Asp Glu Leu Gly Arg Gly Thr Ser Thr Phe Asp Gly Tyr
    930                 935                 940

Ala Ile Ala Tyr Ser Val Phe Arg His Leu Val Glu Lys Val Gln Cys
945                 950                 955                 960

Arg Met Leu Phe Ala Thr His Tyr His Pro Leu Thr Lys Glu Phe Ala
                965                 970                 975

Ser His Pro Arg Val Thr Ser Lys His Met Ala Cys Ala Phe Lys Ser
            980                 985                 990

Arg Ser Asp Tyr Gln Pro Arg Gly Cys Asp Gln Asp Leu Val Phe Leu
        995                1000                1005

Tyr Arg Leu Thr Glu Gly Ala Cys Pro Glu Ser Tyr Gly Leu Gln Val
   1010                1015                1020

Ala Leu Met Ala Gly Ile Pro Asn Gln Val Val Glu Thr Ala Ser Gly
1025                1030                1035                1040

Ala Ala Gln Ala Met Lys Arg Ser Ile Gly Glu Asn Phe Lys Ser Ser
                1045                1050                1055

Glu Leu Arg Ser Glu Phe Ser Ser Leu His Glu Asp Trp Leu Lys Ser
           1060                1065                1070

Leu Val Gly Ile Ser Arg Val Ala His Asn Asn Ala Pro Ile Gly Glu
       1075                1080                1085

Asp Asp Tyr Asp Thr Leu Phe Cys Leu Trp His Glu Ile Lys Ser Ser
   1090                1095                1100

Tyr Cys Val Pro Lys
1105
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accatgcata gcttaaactt cttg 24

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<212> DNA
<213> Artificial sequence

<220>
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<400> 33

acataaccac aaataggggt gc 22

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<220>
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ssp. Landsberg erecta "Ler"

<400> 34

gaagcgatat tgttcgtg 18

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<220>
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ssp. Landsberg erecta "Ler"

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agattgcgag aacattcc 18

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<212> DNA
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<220>
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ssp. Landsberg erecta "Ler"

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acgcgtcgac tcagctatga gattactcgt g 31

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ssp. Landsberg erecta "Ler"

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gctctagatt tctcgctcta agactctct 29

<210> 38
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<220>
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ssp. Landsberg erecta "Ler"

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gctctagagc ttctcttaag taagtgattg at 32

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<220>
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ssp. Landsberg erecta "Ler"

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tcccccgggc tcgagagatc tccatggttt cttcagctct atgaatcc 48

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<212> DNA
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<220>
<223> Forward primer DMC1a for PCR on genomic DNA of Arabidopsis thaliana ssp.
Landsberg erecta "Ler"

<400> 40

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<220>
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Landsberg erecta "Ler"

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tccatggaga tctcccgggt accgatttgc ttcgaggg 38

<210> 42
<211> 20
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gccactgcgt gaatgatatg 20

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<220>
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<400> 43

cgaacagcca acattaattc cc 22

<210> 44
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<220>
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thaliana subspecies

<400> 44

aaccaaggca cagaagcg 18

<210> 45

<211> 18
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<220>
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acccaagtga tcgccacc 18

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taccgaacca aaacacaaag g 21

<210> 47
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tctgtatctc ggtgaattct cc 22

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ctgatctcac ggacaatagt gc 22

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ggctccataa aaagtgcacc 20

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cgctacgctt ttcggtaaag 20

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gcacagtcca agtcacaacc 20

<210> 58

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<400> 58

aaagagatga gaatttggac 20

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acatatcaat atattaaagt agc 23

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gaggacatgt ataggagcct cg 22

<210> 62
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<212> DNA
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tgacctcctc ttccatggag 20

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ttaacagaaa cccaaagctt tc 22

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aggcaaatgt ccatttcatt g 21

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acgacatggc agatttctcc 20

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gaaaaaacgc tactttcgtg g 21

<210> 69
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caagagcaat atcaagagca gc 22

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ctctgtcact cttttcctct gg 22

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thaliana subspecies

<400> 72

tggatttctt cctctcttca c 21

<210> 73
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thaliana subspecies

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thaliana subspecies

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thaliana subspecies

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thaliana subspecies

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thaliana subspecies

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<210> 81
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<210> 83
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<220>
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